ABSTRACT

In accordance with a vehicle motion control apparatus, a steering wheel torque (Th) generated in accordance with an operation of a steering wheel is determined in accordance with a steering wheel torque arithmetic process (30b) by EPS_ECU by using a steering torque (Tp) generated in a second steering shaft of a gear ratio variable mechanism, a motor torque (Tvm) generated by a motor (32m) of the gear ratio variable mechanism and a rotation angle (θvm) of the motor (32m), on the basis of a dynamic equation expressing a torque transfer by the gear ratio variable mechanism. Accordingly, even in the case that the vehicle motion control apparatus employs a structure that the gear ratio variable mechanism is interposed between the steering wheel and a torque sensor, the steering wheel torque (Th) can be known without adding any new torque sensor or the like. Therefore, it is possible to improve a motion controllability of the vehicle without increasing a number of parts by using the steering wheel torque (Th) for an ESP control process (30a).